VISUAL RESOURCE ASSESSMENT PROCEDURES

FOR

LOWER MUD RIVER WATERSHED
LIMITED REEVALUATION REPORT
AND
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

US ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

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VISUAL RESOURCE ASSESSMENT PROCEDURES (VRAP)

The Visual Resource Assessment Procedure was developed to be used in the Corps of Engineers' Civil Works planning process as input to plan formulation, project design, and operations. The procedure is consistent with Corps planning and environmental policies. The method and analysis used are intended to correspond with the planning and environmental policies in the Planning and Guidance manual. As such, the Procedure is quantitative, systematic, and tractable.

As part of the ongoing planning process the VRAP is integrated with Corps planning activities (see Table 1). The VRAP process, however, is intended as a general process or guide rather than a rigid prescription for planning or visual resource studies. Funding scheduling and other considerations often result in VRAP being initiated after Formulation of Alternatives or Evaluation; so the Procedure should be viewed with some flexibility.

Table 1 Planning Process and the VRAP Procedure

Planning Process	*VRAP Procedures*	*Forms*
Specify problems and opportunities.	Define study area.	VISUAL RESOURCE SUMMARY/ DESCRIPTION
	Identify Regional Landscape.	ASSESSMENT FRAMEWORK
	Determine MCS class.	
	Establish what method to use for the study (General, Basic, or Detailed).	
Inventory and forecast.	Inventory existing visual resources.	VISUAL RESOURCE INVENTORY/FORECAST
	Forecast without-plan conditions to assess any changes from existing visual resource conditions.	VISUAL RESOURCE INVENTORY/FORECAST
	Forecast with-plan conditions.	VISUAL RESOURCE INVENTORY/FORECAST
Formulate alternative plans.	Use simulations to show designs of alternatives.	
Evaluate alternative plans.	Assess visual impacts by calculating the difference between future with- and without-plan conditions for each landscape component, for each viewpoint.	VISUAL IMPACT ASSESSMENT-VIEWPOINT
	Combine viewpoint assessments from each evaluator to calculate VIA Values for the landscape components and landscape modifiers.	VISUAL IMPACT ASSESSMENT-VIEWPOINT SUMMARY
	Combine the evaluators VIA to calculate a VIA Value.	VISUAL IMPACT ASSESSMENT-ASSESSMENT SUMMARY
(If public input is available.)	(Combine public and professional VIA Values to calculate a Total VIA Value.)	(COMPOSITE PROJECT ASSESSMENT)
Compare alternative plans.	Compare VIA Values with MCS criteria.	

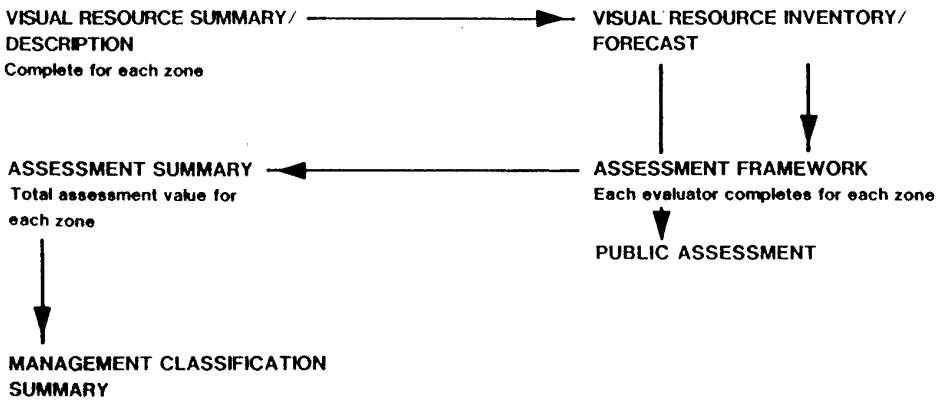
The Visual Resources Assessment Procedure (VRAP) of the US Army corps of Engineers is made up of two main parts, the Management Classification System and the Visual Impact Assessment Procedures.

Part I Management Classification System (MCS)

The Management Classification System provides an evaluation framework that defines general criteria for judging visual quality. The MCS criteria are designed to guide the VRAP appraisal by providing a basis for determining whether the visual impact

caused by a project is desirable. Separate frameworks are developed for different Regional Landscapes to accommodate the unique characteristics of each type. The MCS information enables planners to inventory and evaluate resources and visual impacts in a consistent manner within each region and to make sound decisions in assessing the visual effects of proposed projects. The general steps involved in the MCS process are outlined in Figure 1.

Figure 1 Management Classification System



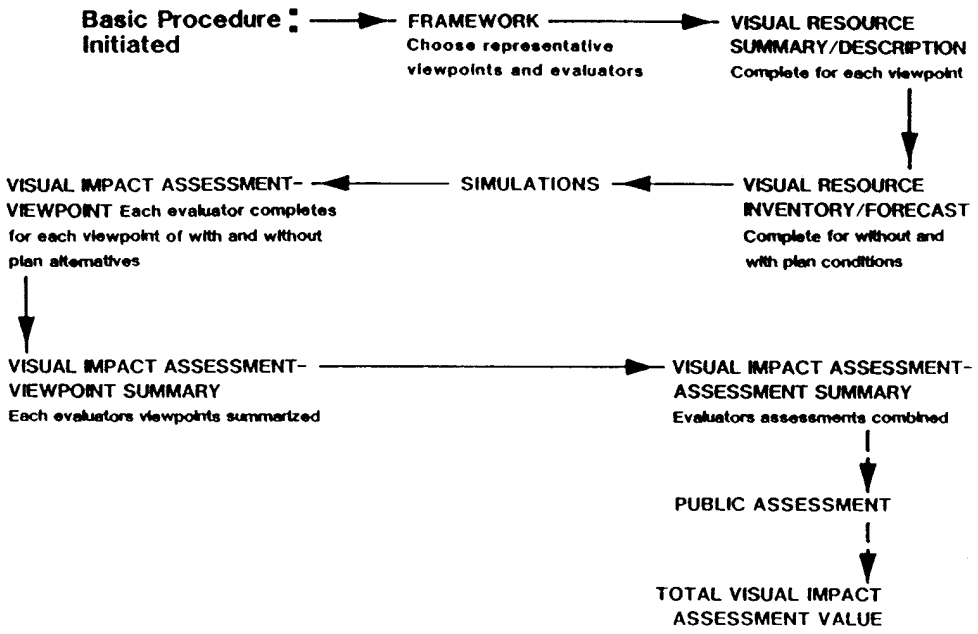
The MCS consists of several steps, first the Regional Landscape is identified, Similarity Zones within that landscape are established, and then the visual resources of each zone are described in a generalized manner. Professional aesthetic judgments and public preference information are used to assess the visual quality of the resources and to categorize those assessments in an overall Assessment Framework for the Regional Landscape. Using this framework, the visual resources of each Similarity Zone are assessed, and a numerical Assessment Value for each zone is established. Based on the Assessment Value, each zone is assigned to a particular MCS class, which describes the degree and nature of visual change acceptable for that zone.

Part II Visual Impact Assessment (VIA)

The Visual Impact Assessment portion of the VRAP process is designed to assess and appraise the visual effects of the proposed project. There are three VIA Procedures that can be use for a particular project, the General, Basic and Detailed procedures. The General Procedures are used in early or preliminary studies to assess general study areas and preliminary plans. The outputs of the General procedures are visual resource planning objectives, constraints, or design criteria. However, the use of the General procedure in preliminary studies may be precluded due to time and funding issues. Depending upon the characteristics of a study, one of two VIA Procedures is followed for study investigations in which specific sites and plan alternatives are being considered or require more detailed analysis than is provided in the General Procedure. The Basic

Procedure provides the impact assessment and evaluation information required for most Corps studies. The process for the Basic VIA Procedure is outlined in Figure 2. The Detailed procedure follows the same general process as the Basic procedure, but also includes the assessment of design elements, i.e., line, form, color, and texture. In doing this, the detailed procedure permits a more sensitive and extensive VIA.

Figure 2 Basic VRAP VIA Procedure



The VIA Procedure is initiated by selection of evaluators familiar with VIA concepts. It is necessary for at lease two personnel to perform the inventory for the VIA procedure. Viewpoints are selected to assess the existing visual quality of the area as well as the forecasted project impact to those visual resources. The viewpoints are selected because they represent typical viewer location, typical viewer activities and potential project visibility.

For each viewpoint, evaluators complete two forms (Forms #1 and #2) in order to describe and identifying the present and future without project visual components of the area. Using two more of the same forms, the evaluators then describe the changes anticipated for the with project condition.

Simulations of each viewpoint are prepared as needed for the study to show with- and without-plan conditions at different periods of time. If the without-plan conditions do not change from existing conditions, then only the, “with plan” conditions need to be simulated.

The next step then completes a Viewpoint Assessment Form #6. This form was designed to quantify impacts to the resources in a way that is tractable by examining the specific changes in landscape components. These landscape components are: water resources, landform, vegetation, land use, and user activity. By assigning values to each viewpoint for each of the landscape components, the viewers will be able to evaluate impacts for the overall viewpoint. Modifier and landscape composition ratings are used to support and explain the numerical values of each evaluation. These ratings show how the changes in landscape components result in changes in spatial dominance, scale contrast compatibility, and landscape composition.

The next step involves the summary of viewpoint assessments for each viewer using the Summary Viewpoint Assessment Form (Form #7). The Viewpoint Values are then summed for each resource component, and the sum is then divided by the total number of viewpoints. This quotient is the particular evaluator's summary Viewpoint Value for the resource.

The final step in the VIA is the Project Assessment. The completion of Form #8 produces a single assessment value is obtained for the project by combining the assessments of all the evaluators. The values are summed for each visual resource component and then divided by the number of evaluators to produce a VIA Value for each resource component. These are then summed to produce a Final VIA Summary Value.

MILTON LPP VISUAL RESOURCE ASSESSMENT

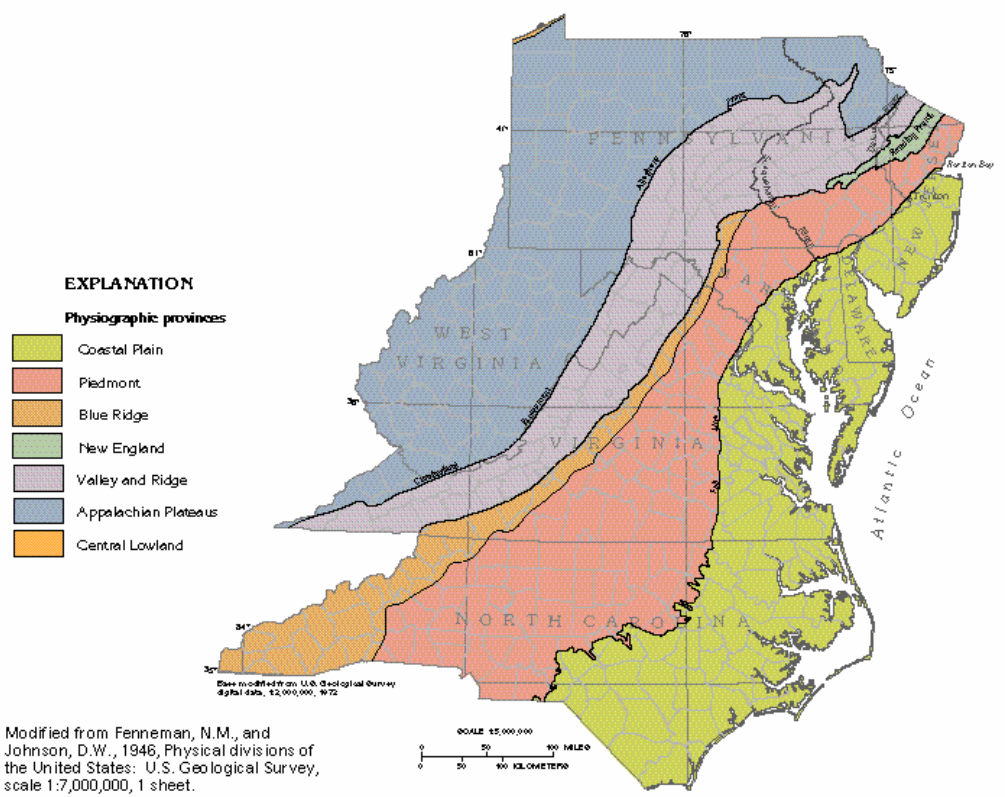
Part I Management Classification System (MCS)

I.a. Regional Landscape Identification

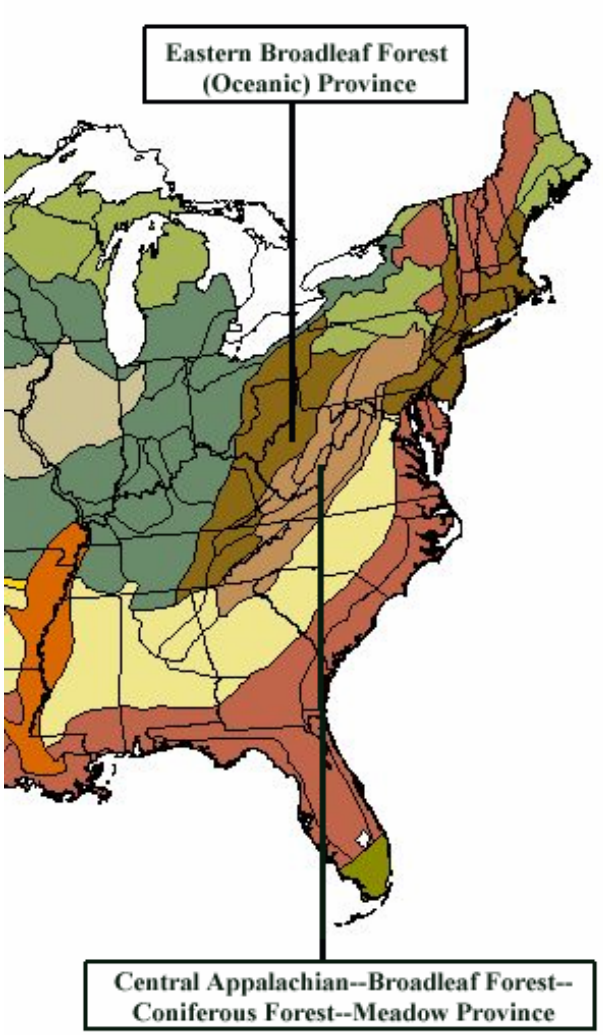
By establishing an individual Assessment Framework for each Regional Landscape, the value and importance of the region's visual characteristics are judged relative to the landscape context in which they occur, not in comparison with completely dissimilar landscapes.

Cabell County lies within two regional landscapes. Although there is no definitive data on the geographic position of the ecoregions or physiographic provinces, researching existing studies and mapping (Bailey, Fenneman) Cabell County lies in both the Appalachian Plateau.

Cabell County also lies within two ecoregions as classified by Dr. R.G. Bailey with the USDA Forest Service. One of which is the Central Appalachian Broadleaf Forest--Coniferous Forest--Meadow Province the other, the Eastern Broadleaf Forest (Oceanic) Province. Within each ecoregion is a similar ecological landscape consisting of similar landforms, climate, flora, and fauna. A detailed description of the two ecoregions is located in the appendix.



Modified from Fenneman, N.M., and Johnson, D.W., 1946, Physical divisions of the United States: U.S. Geological Survey, scale 1:7,000,000, 1 sheet.



I.b. Similarity Zone Identification

Within each Regional Landscape, Similarity Zones are established to provide a more specific framework with which to define and evaluate the visual resources of a study area.

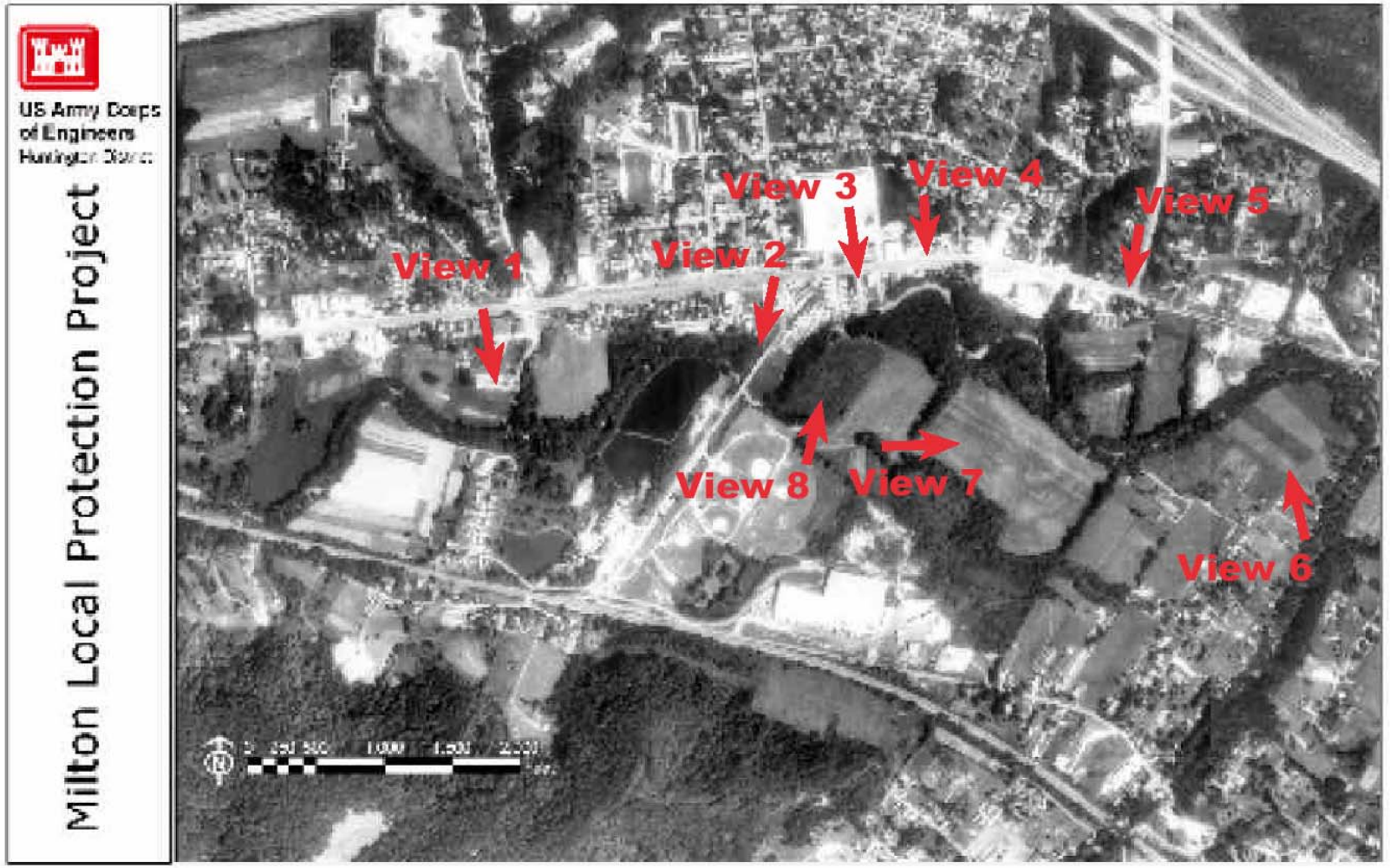
Cabell County would have several similarity zones established by overlaying appropriate landform and vegetation/ecosystem information, with land use intensity mapping available. However, due to the relatively small area that the Milton project covers and relative land use and visual consistency within the project area, we have identified the confines of the Mud River valley as a single similarity zone (see mapping).

I.c. Management Classification

Using the fact that the entire proposed LPP in Milton lies within one similarity zone, the team was able to assign a management class to the zone based on its Total Assessment Value. The Milton similarity zone earned a Total Assessment value of 15 therefore placing the area in the Retention Class. Areas in this class are regionally recognized as having distinct visual quality, but may not be institutionally protected. Project activity may be evident, but should not attract attention. Structures, operations, and use activities should remain subordinate to the existing visual resources and should repeat the form, line, color, texture, scale, and composition characteristics of the resource. Similarity Zones having a Total Assessment Value of 14 to 16 are included in this class. Projects in these zones should have VIA values no lower than -2.

Part II Visual Impact Assessment (VIA)

VIEWPOINT ASSESSMENT MAP



SUMMARY VIEWPOINT ASSESSMENT (FORM 7 VIA)

VRAP EVALUATOR #1													
VIEWPOINT #													
	1	2	3	4	5	6	7	8	9	10	11	12	Quotient
WATER	0	0	0	0	0	0	0	0	0	0	0	0	0
LANDFORM	0	0	0	-1	-1	-1	0	0	0	0	0	0	-0.25
VEGETATION	0	0	0	0	0	0	0	0	0	0	0	0	0
LANDUSE	0	0	0	0	-1	-1	0	0	0	0	0	0	-0.16667
USER ACTIVITY	0	0	0	-1	-1	-1	-1	0	0	0	0	0	-0.33333
SPECIAL CONSIDERATIONS	0	-2	0	0	0	0	0	0	0	0	0	0	-0.16667
	MODIFIER RATING: COMPATIBILITY/SCALE CONTRAST/SPACIAL DOMINANCE												Majority
WATER	SC/NA/NA	C/MI/S	C/NA/NA	C/NA/NA	C/NA/NA	C/NA/NA	SC/NA/NA	C/NA/NA	C/MI/S	C/MI/S	SC/NA/S	SC/NA/S	C/NA/NA
LANDFORM	SC/MI/S	C/MI/S	SC/MO/S	C/MI/S	NC/S/D	NC/S/D	SC/MO/D	C/MO/S	C/MI/S	C/MI/S	SC/MO/S	SC/MO/S	SC/MI/S
VEGETATION	SC/MI/S	C/MI/S	C/NA/C	C/MI/S	SC/MI/S	SC/MI/C	SC/MI/S	C/MI/S	C/MI/S	C/MI/S	SC/MO/S	SC/MO/S	SC/MI/S
LANDUSE	SC/NA/S	C/MI/S	C/NA/S	C/MI/S	NC/NA/D	NC/S/D	SC/MO/C	C/MI/S	C/MI/S	C/MI/S	SC/MO/S	SC/MO/S	C/MI/S
USER ACTIVITY	SC/NA/S	C/MI/S	C/MI/S	C/MI/S	NC/MO/D	NC/S/D	SC/MO/C	C/MI/S	C/MI/S	C/MI/S	SC/MO/S	SC/MO/S	C/MI/S
SPECIAL CONSIDERATIONS													
VRAP EVALUATOR #2													
VIEWPOINT #													
	1	2	3	4	5	6	7	8	9	10	11	12	Quotient
WATER	0	0	-1	-1	0	0	-1	-1	0	0	-1	0	-0.41667
LANDFORM	0	0	0	0	-1	-1	-1	-1	0	0	-1	-2	-0.58333
VEGETATION	0	0	0	0	-1	-1	-1	-1	0	0	0	0	-0.33333
LANDUSE	0	0	0	-1	0	-1	-1	-1	0	-1	-1	0	-0.5
USER ACTIVITY	0	0	-1	0	0	-1	-1	0	0	0	-1	0	-0.33333
SPECIAL CONSIDERATIONS	0	-2	-1	-3	0	0	0	0	0	0	0	0	-0.5
	MODIFIER RATING: COMPATIBILITY/SCALE CONTRAST/SPACIAL DOMINANCE												Majority
WATER	SC/MI/S	C/MI/S	SC/MO/S	C/NA/NA	NC/S/D	C/MO/C	NC/MI/D	NC/MO/C	C/MI/S	SC/MO/C	SC/MO/C	NC/S/D	SC/MO/C
LANDFORM	SC/MI/S	C/MI/S	SC/MI/C	C/MI/S	NC/S/D	NC/S/C	NC/S/D	NC/MO/C	C/MI/S	SC/MO/C	SC/MO/C	NC/S/D	SC/MO/C
VEGETATION	SC/MI/S	C/MI/S	C/MI/C	C/MI/S	NC/S/D	NC/S/D	NC/S/D	SC/MO/C	C/MI/S	C/MI/C	NC/MO/D	NC/S/D	SC/MO/C
LANDUSE	SC/MI/S	C/MI/S	C/MO/C	C/MI/S	NC/S/D	NC/S/C	NC/S/D	NC/MO/C	C/MI/S	NC/MO/C	NC/S/D	NC/S/C	NC/MO/C
USER ACTIVITY	SC/MI/S	C/MI/S	C/MI/C	C/MI/S	C/S/D	NC/S/D	NC/S/D	SC/MO/C	C/MI/S	SC/MO/C	NC/S/D	C/MI/S	C/MI/C
SPECIAL CONSIDERATIONS													

SUMMARY VIEWPOINT ASSESSMENT (CONTINUED)

VRAP EVALUATOR #3													
VIEWPOINT #													
	1	2	3	4	5	6	7	8	9	10	11	12	Quotient
WATER	-1	0	0	0	0	0	-1	0	0	0	0	0	-0.16667
LANDFORM	0	0	0	0	-1	0	-1	0	0	-1	0	-1	-0.33333
VEGETATION	0	0	0	0	-1	0	0	-1	0	0	-1	0	-0.25
LANDUSE	0	0	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-0.75
USER ACTIVITY	-1	0	-1	-1	-1	-1	-1	-1	0	-1	-1	-2	-0.91667
SPECIAL CONSIDERATIONS	0	0	0	0	0	0	0	0	0	0	-1	0	-0.08333
	MODIFIER RATING: COMPATIBILITY/SCALE CONTRAST/SPACIAL DOMINANCE												Majority
WATER	SC/MO/C	C/MI/S	NC/MO/C	SC/MO/C	NC/S/D	NC/S/D	NC/S/D	SC/MI/C	C/MI/S	SC/MO/C	C/MI/C	SC/MI/C	SC/MI/C
LANDFORM	C/MI/S	C/MI/S	SC/MO/C	SC/MO/C	NC/MO/D	SC/MO/C	NC/S/D	SC/MI/C	C/MI/S	SC/MO/C	SC/MO/C	SC/MO/C	SC/MO/C
VEGETATION	C/MI/S	C/MI/S	SC/MI/C	SC/MO/C	NC/S/D	SC/MO/C	SC/MO/C	SC/MO/C	C/MI/S	C/MI/C	SC/MO/C	SC/MI/C	SC/MI/C
LANDUSE	C/MI/C	C/MI/S	NC/MO/C	SC/MO/C	NC/MO/D	NC/S/C	NC/S/D	SC/MO/C	C/MI/S	NC/MO/C	SC/MO/C	NC/S/C	NC/MO/C
USER ACTIVITY	SC/MI/C	C/MI/S	SC/MI/C	SC/MO/C	NC/MO/C	NC/S/D	NC/S/D	SC/MO/C	C/MI/S	SC/MO/C	SC/MO/C	NC/S/D	SC/MO/C
SPECIAL CONSIDERATIONS													

PROJECT VRAP ASSESSMENT

	EVALUATOR #1	EVALUATOR #2	EVALUATOR #3	QUOTIENT
WATER	0	-0.416666667	-0.166666667	-0.194444444
LANDFORM	-0.25	-0.583333333	-0.333333333	-0.388888889
VEGETATION	0	-0.333333333	-0.25	-0.194444444
LANDUSE	-0.2	-0.5	-0.75	-0.483333333
USER ACTIVITY	-0.333333333	-0.333333333	-0.916666667	-0.527777778
SPECIAL CONSIDERATIONS	-0.166666667	-0.5	-0.083333333	-0.25
VISUAL IMPACT ASSESSMENT VALUE=				**-1.788888889**
MODIFIER RATING: COMPATIBILITY/SCALE CONTRAST/SPACIAL DOMINANCE				**Majority**
WATER	C/NA/NA	SC/MO/C	SC/MI/C	SC/MO/C
LANDFORM	SC/MI/S	SC/MO/C	SC/MO/C	SC/MO/C
VEGETATION	SC/MI/S	SC/MO/C	SC/MI/C	SC/MI/C
LANDUSE	C/MI/S	NC/MO/C	NC/MO/C	NC/MO/C
USER ACTIVITY	C/MI/S	C/MI/C	SC/MO/C	C/MI/C
SPECIAL CONSIDERATIONS				

Milton LPP VRAP Appraisal

The VRAP Appraisal involves evaluate the calculated VIA value using the MCS criteria as a guide by providing a basis for determining whether the visual impact caused by the project is desirable. The VIA Value is compared with the visual impact guidelines contained in the MCS (see chart below).

	Management Class	VIA Value
	Preservation	0
Milton LPP→	**Retention**	**10 to -2**
	Partial retention	10 to -5
	Modification	10 to -7
	Rehabilitation	10 to -10

As the proposed Milton LPP is within the range of the MCS Class designated for the project area, the overall project visual impact is considered to be acceptable. No significant overall visual impacts are identified for the project. Though the VIA value falls within acceptable range for the project, the value falls at the low end of the range. Acknowledging this fact, it is likely that one or more individual viewpoint(s) are likely to have significant impact. Therefore, the VRAP results for each viewpoint should be used as a guide to assist the planning and design of landscape planting plans, wall graphics, or other visual mitigation measures.

Visual Resource Summary Description (Form 1) MCS Similarity Zone

Land use within the boundaries of project area itself consists of a mix of commercial and residential development, agricultural and open vegetated land, and forested land. Milton's business district contains commercial establishments such as restaurants, gas stations, grocery stores, banks and other small shops. Many buildings in Milton have been nominated for inclusion in the National Register of Historic Places.

The Mud River and other streams with rocky channels are predominant in the overall scenery. Immediately outside of the maturely dissected flood plain are steep forested hills, and mountains.

Visibility: Ranges from a few feet in the woods to approximately 1000 feet in the valley to several miles from high elevations.

Recreational activities: Biking, fishing, canoeing and picnicking.